

Remarks

Claims 1-7 are pending in the present application. Claims 1-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Fuderer *et al.* (US 7,027,854) in view of Murphy *et al.* (US 6,294,915).

Claim 7 also stands rejected under § 101 as being directed towards non-statutory subject matter.

Claim 7 has been amended. Claims 1-6 remain in the application unamended.

The drawings stand objected to because all rectangular boxes in Fig. 10, 11, and 12 are not labeled. Figures 10, 11, and 12 have been amended.

The Abstract of the Disclosure stands objected to because, the Office Action states, it should be in a separate page. The Abstract has been amended.

The Disclosure stands objected to because, the Office Action states, the specification should not make reference to the claims. The Disclosure has been amended.

Drawings

As shown in the attached sheets (2) of drawings, Figures 10, 11, and 12 have been amended in accordance with the Office Action to include labels in all rectangular boxes. Accordingly, reconsideration and withdrawal of the objections to the drawings are respectfully requested.

Specification

As set forth above, the Abstract of the disclosure as originally filed has been replaced in accordance with the suggestion in the Office Action.

Also, as set forth above, the paragraph which includes line 7 of page 2 has been amended to remove the reference to claim 1, as suggested by the Office action.

It is respectfully submitted that the foregoing amendments do not add any subject matter to the present application. In light of the foregoing, reconsideration and withdrawal of the objections to the Specification are respectfully requested.

Claims

Claim 1 is directed to a magnetic resonance imaging method involving a *field-of-view*, wherein a receiver antenna is employed to acquire magnetic resonance signals from an object to be examined, and a non-selective RF excitation is applied followed by at least one temporary magnetic gradient field to generate a receiver response signal from the receiver antenna, and a relative adjustment of the *field-of-view* and the object to be examined is carried out on the basis of the receiver response signal.

The Office Action states that Fuderer *et al.*, discloses a method for determining the position of a microcoil in a MRI apparatus. The Office Action states that Fuderer *et al.* teaches that to determine the position of the microcoil or antenna 6 the receiver antenna is employed to acquire magnetic resonance signals from an object 5 to be examined, and a non-selective RF excitation (7, 7a, 7b) is applied followed by at least one temporary magnetic gradient field (8, 10, 11) to generate a receiver response signal from the receiver antenna 6. The Office Action goes on to state that one of the purposes of determining the position of the antenna 6 is to adjust automatically the FOV as described for example in lines 19-20 of col. 5 and lines 60-62 of the same column. The Office Action concludes that the only difference between Fuderer *et al.* and the claims at issue is that Fuderer is silent about moving the patient or object to be examined in accordance with an adjusted FOV. According to the Office Action, this step is obvious to the artisan of ordinary skill in the art in view of Murphy which teaches moving a patient to make for example, a FOV coincide with a magnet's isocenter.

First, it is respectfully submitted that the Office Action has not established how the combination of references teach or suggest all of the limitations of claim 1. More specifically, Murphy teaches the use of alignment lights to move a patient within an open magnet MRI in order to position a desired patient scan area accurately within a field of view. At column 3, lines 12-38, Murphy teaches that a moveable patient table 12 is for aligning a patient 32, as shown in FIG. 2, within an imaging area of the open magnet MRI 10. FIG. 2 shows the patient 32 positioned on the moveable patient table 12 partially within the open magnet MRI 10, such that a desired patient scan area, denoted generally by arrow 34, is centered about a light beam 36 emitted from the exterior alignment light 26. The first alignment light 26 is used to align the desired scan area 34 of the patient 32

within a fixed reference distance from a center 38, FIG. 3 of the FOV 40. Once the patient is properly positioned using the light beam 36 to center the desired scan area 34, the moveable patient table 12 is automatically incremented longitudinally inward, as indicated by arrow 42 of FIG. 4, a given distance that is equal to the fixed distance between the exterior alignment light 26 and the center 38 of the FOV 40, as best viewed in FIG. 5. Although it may appear that the FOV 40 would generally capture the desired scan area of the patient, since image quality trails off with distance from the center of the FOV 40, the highest quality images are acquired at the center of the FOV. However, an MRI operator can only approximate the exact position of organs, or other structure, of any given patient. Therefore, and in accordance with the present invention, after an initial MRI is acquired, a second alignment light 28 is used to emit a second beam of light 44 from the interior of the upper magnetic structure 22 along the center 38 of the FOV 40 to reposition the patient accordingly. In light of the teachings of Murphy, Applicant respectfully submits that Fuderer and Murphy do not teach or suggest a relative adjustment of the *field-of-view* and the object to be examined is carried out on the basis of the receiver response signal as set forth in claim 1. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 1.

Claims 2-5 depend from claim 1. For at least the reasons set forth above in connection with the patentability of claim 1, reconsideration and withdrawal of the rejections of claims 2-5 are respectfully requested.

Claim 6 is directed to A magnetic resonance imaging system involving a *field-of-view*, comprising a receiver antenna to acquire magnetic resonance signals from an object to be examined, and an RF transmission system to generate a non-selective RF excitation followed by at least one temporary magnetic gradient field to generate a receiver response signal from the receiver antenna, and a control unit to calculate a relative adjustment of the *field-of-view* and the object to be examined is carried out on the basis of the receiver response signal.

The above arguments set forth above in connection with the patentability of claim 1, can be applied *mutatis mutandis* to claim 6. Accordingly, reconsideration and withdrawal of the rejection of claim 6 are respectfully requested.

Claim 7, as amended, is directed to a computer readable medium encoded with a computer program comprising instructions to activate an RF transmission system to generate a non-selective RF excitation followed by at least one temporary magnetic gradient field to generate a receiver response signal from the receiver antenna, and calculate a relative adjustment of the *field-of-view* and the object to be examined is carried out on the basis of the receiver response signal.

The above arguments set forth above in connection with the patentability of claim 1, can be applied *mutatis mutandis* to claim 7. Accordingly, reconsideration and withdrawal of the § 103 rejection of claim 7 are respectfully requested.

With respect to the § 101 rejection, claim 7 has been amended as suggested by the Office Action to be directed to a computer readable medium encoded with a computer program. In light of this amendment, reconsideration and withdrawal of the § 101 rejection of claim 7 are respectfully requested

Conclusion

Applicant submits that claims 1-7 distinguish patentably and non-obviously over the prior art of record and are in condition for allowance. An early indication of allowability is earnestly solicited.

If any extension of time is required relative to this Response A, Applicant hereby petitions for such extension. Authorization to charge deposit account 14-1270 for the fees associated therewith or otherwise necessary in connection with the related application is hereby provided.

Respectfully submitted,



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